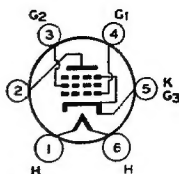


RCA-41

POWER-AMPLIFIER PENTODE

The 41 is a power-amplifier pentode of the heater-cathode type for use in the audio-output stage of radio receivers with 6.3-volt heater supply. The tube is capable of giving

a large power output with a relatively small input-signal voltage.



CHARACTERISTICS

HEATER VOLTAGE (A. C. or D. C.)	6.3	Volts
HEATER CURRENT	0.4	Ampere
PLATE VOLTAGE	100 135 180	250 max. Volts
SCREEN VOLTAGE	100 135 180	250 max. Volts
GRID VOLTAGE	-7 -10 -13.5	-18 Volts
PLATE CURRENT	9.0 12.5 18.5	32 Milliamperes
SCREEN CURRENT	1.6 2.2 3.0	5.5 Milliamperes
PLATE RESISTANCE (Approx.)	103500 94000 81000	68000 Ohms
AMPLIF. FACTOR (Approx.)	150 150 150	150
TRANSCONDUCTANCE	1450 1600 1850	2200 Micromhos
LOAD RESISTANCE	12000 10400 9000	7600 Ohms
SELF-BIAS RESISTOR	660 680 630	480 Ohms
POWER OUTPUT*	0.33 0.75 1.5	3.4 Watts
BULB		ST-12
BASE		Medium 6-Pin

* 10% total harmonic distortion.

INSTALLATION AND APPLICATION

The base pins of the 41 fit the standard six-contact socket which may be installed to hold the tube in any position. For heater operation and cathode connection, refer to INSTALLATION on type 6A8.

For the power amplifier stage of receivers, the 41 may be used either singly or in push-pull combination. More than one audio stage preceding the 41 is undesirable because of the possibility of microphonic disturbances resulting from the high level of amplification.

If a single 41 is operated self-biased, the self-bias resistor should be shunted by a suitable filter network to avoid degenerative effects at low audio frequencies. The use of two 41's in push-pull eliminates the necessity for shunting the resistor. The self-bias resistor required for two 41's in the same stage is one-half that for a single stage.

Any conventional type of input coupling may be used provided the resistance added to the grid circuit by this device is not too high. Transformer or impedance coupling devices are recommended. If, however, resistance coupling is employed, the grid resistor should not exceed one megohm with self-bias, provided the heater voltage does not rise more than 10% above the rated value under any condition of operation. When self-bias is not used, the value should be limited to 100000 ohms.

An output transformer should be used to supply power to the winding of the reproducing unit. The optimum value of load resistance for a single tube is given under CHARACTERISTICS. For push-pull operation, the plate-to-plate load resistance should be twice that for a single tube. For best results, the impedance in the plate circuit of the 41 should be as uniform as possible over the entire audio-frequency range.

A family of plate characteristic curves is given on the preceding page.